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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/478,999	01/07/2000	THOMAS PIAZZA	42390.P8055	2472

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EXAMINER
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GOOD JOHNSON, MOTILEWA

ART UNIT	PAPER NUMBER
2628	

DATE MAILED: 09/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/478,999

Applicant(s)

PIAZZA ET AL.

Examiner

Motilewa Good-Johnson

Art Unit

2628

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Velez 6,678,006 in view of Herrera 6,208,350.

Regarding claim 1, Velez discloses a method of blending a sub picture signal and a video signal comprising: receiving a sub picture signal (34) (col. 6, lines 8-9), the sub picture signal providing a plurality of alpha values and information identifying or to identify a plurality of sub picture Y, U and V values (col. 4, lines 8-16); receiving a video signal (32) (col. 6, lines 8-9), the video signal including a set of Y values, a set of U values and a set of V values provided in a planar format (col. 4, lines 16-24); blending each of the Y values of the video signal with a corresponding Y value of the sub picture signal based on a corresponding alpha value to generate a set of blended Y values (col. 4, lines 25-27); blending each of the U values of the video signal with a corresponding U value of the sub picture signal based on a corresponding alpha value to generate a set of blended U values (col. 4, lines 28-30); blending each of the V values of the video signal with a corresponding V value of the sub picture signal based on a corresponding alpha value to generate a set of blended V values (col. 4, lines 30-33); wherein the

steps of blending are performed using multiple passes (col. 2, lines 1-24) (figure 4, blending performed in 114 and also 134, which Examiner interprets as multiple passes)

However, it is noted that Velez fails to disclose wherein the generated sets of blended Y values, U values and V values are provided in a planar format and the Y, U and V values of the video signal are provided in a 4:2:0 format, and wherein the steps of blending are performed using a 4:2:0 format and receiving alpha values.

Herrera discloses wherein the generated sets of blended Y values, U values and V values are provided in a planar format and the Y, U and V values of the video signal are provided in a 4:2:0 format, and wherein the steps of blending are performed using multiple passes in a 4:2:0 format (abstract). Herrera further discloses receiving alpha value for alpha blending (32).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the sub picture and video processing of data as disclosed in Velez the signal format and alpha blending as disclosed in Herrera to provide cost-effective and improved DVD processing playback capabilities in a computer.

Regarding claim 2, Velez discloses wherein the step of receiving a sub picture signal comprises the step of receiving a sub picture signal, the sub picture signal including a plurality of palette indexes (col. 7, lines 15-25)

However, it is noted that Velez fails to disclose receiving a plurality of alpha values.

Herrera further discloses receiving alpha value for alpha blending (32).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the sub picture and video processing of data as disclosed in Velez the signal format and alpha blending as disclosed in Herrera to provide cost-effective and improved DVD processing playback capabilities in a computer.

Regarding claim 3, Velez discloses further comprising the step of identifying sub picture Y, U and V values based upon the palette indexes (col. 7, lines 25-30)

Herrera discloses performing a table lookup to obtain values for the sub-picture, col. 17, lines 25-28.

Regarding claims 5-7, However, it is noted that Velez fails to disclose performing motion compensation on each of the Y (U, V) values of the video signal; and blending each of the motion compensated Y (U, V) values based on a corresponding alpha value to generate a set of blended Y (U, V) values

Herrera discloses performing motion compensation for each plane of the Y, U and V samples, col. 13, lines 22-67.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the sub picture and video processing of data as disclosed in Velez the motion compensation for each plane as disclosed in Herrera to provide cost-effective and improved DVD processing playback capabilities in a computer.

Art Unit: 2628

Regarding claim 8, Velez discloses wherein the step of receiving a sub picture signal comprises the step of receiving a sub picture signal, the sub picture signal including a plurality of palette indexes (col. 7, lines 15-25)

However, it is noted that Velez fails to disclose receiving a plurality of alpha values.

Herrera discloses the sub-picture stream decoded into a bitmap composed of colors from a palette of sixteen colors for blending the final digital video signal, col. 2, lines 39-50.

Regarding claim 9, Velez fails to disclose further comprising converting the sets of blended Y values, U values and V values from a planar YUV 4:2:0 format to an interleaved YUV 4:2:2 format.

Herrera discloses YUV 4:2:0 conversion to an interleaved YUV 4:2:2 format, col. 2, line

Regarding claim 10, Velez fails to disclose further comprising color converting the blended Y values, U values and V values from a YUV 4:2:2 format to a RGB format.

Herrera discloses converting the YUV 4:2:2 video pixel to RGB, col. 17, lines 25-27.

Regarding claim 11, Herrera fails to disclose wherein said steps of blending are performed at render time.

Herrera discloses a rendering algorithm for images to be displayed on the display device, col. 11, lines 38-43.

Regarding claim 12, Velez discloses the video signal comprises a DVD video signal, and wherein the sub picture signal comprises a DVD sub picture signal (figure 1)

Regarding claim 13, Velez discloses wherein the step of identifying sub picture Y, U, and V values based upon the palette indexes comprises the steps of: loading a palette with sub picture (Y,U,V) values, identifying one or more sub picture (Y,U,V) values based one or more indexes, and performing the step of blending each of the (Y,U,V) values in a (first, second, third) pass (col. 5, lines 36-55)

Regarding claim 14, it is rejected based upon similar rational as above claim 2.

Regarding claim 15, it is rejected base upon similar rational as above claim 13. Herrera discloses the sub-picture stream independent claim 1 decoded into a bitmap composed of colors from a palette of sixteen colors intended to be blended in the final digital video signal, col. 2, lines 39-50.

Regarding claim 16, Velez fails to disclose wherein the sub picture palette comprises a texture palette loaded with sub picture values for performing the steps of blending.

Herrera discloses applying texture maps for pictures, col. 14, lines 744.

Regarding claim 17, it is rejected based upon similar rational as claim 1. Velez discloses a palette (64) and a blend unit (114 and 134) and blending is performed using multiple passes (col. 2, lines 1-24) (figure 4, blending performed in 114 and also 134, which Examiner interprets as multiple passes)

However, it is noted that Velez fails to disclose alpha blending and a 4:2:0 format.

Herrera discloses a sub-picture stream decoded into a bitmap composed of colors from a palette of sixteen colors intended to be blended in the final digital video signal, col. 2, lines 39-50, and an alpha blend process to produce a translucent overlay in which video signals and sub-picture digital video signals are blended together, col. 3, lines 14-19. Herrera further discloses a YUV 4:2:0 format, col. 2, line 59 and abstract.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the sub picture and video processing of data as disclosed in Velez the signal format and alpha blending as disclosed in Herrera to provide cost-effective and improved DVD processing playback capabilities in a computer.

Regarding claim 18, Velez fails to disclose wherein the palette is a dual-purpose palette, which can operate as a texture palette or a sub picture palette.

Herrera discloses col. 2, lines 43-45.



Regarding claim 19, Herrera discloses the sup-picture is represented by an index to the table and a blend value, col. 17, lines 23-25.

Regarding claim 20, Herrera discloses performing motion compensation for each plane of the Y, U and V samples, col. 13, lines 22-67.

Regarding claim 21, it is rejected based upon similar rational as claim 17.

Velez discloses a palette for sub-pictures, col. 2, lines 43-45, and blend process in which video signals and sub-picture digital video signals are blended together (figures 1-3)

Herrera discloses a palette for sub-pictures, col. 2, lines 43-45. Herrera discloses an alpha blend process to produce a translucent overlay in which video signals and sub-picture digital video signals are blended together, col. 3, lines 14-19, and discloses a planar YUV 4:2:0 format, col. 2, line 59.

Regarding claim 22, Velez discloses a palette for sub-pictures, figure 3. Herrera discloses a planar YUV 4:2:0 format, col. 2, line 59.

Regarding claim 23, it is rejected based upon similar rational as above independent claim 22.

Regarding claim 24, Herrera discloses the sup-picture is represented by an index to the table and a blend value, col. 17, lines 23-25.

Regarding claim 25, Herrera discloses a palette for sub-pictures, col. 2, lines 43-45. Herrera further discloses blending the video components with the sub picture component where alpha provides the levels of blend for each color, col. 17, lines 1-28.

Regarding claim 26, it is rejected based upon similar rational as claim 22.

Velez discloses blending the video picture components with the sub-picture component to produce a final output pixel and discloses each sub-picture pixel represented by an index to a table and an accompanying blend value, col. 17, lines 20-25.

Herrera discloses blending the video picture components with the sub-picture component to produce a final output pixel and discloses each sub-picture pixel represented by an index to a table and an accompanying blend value, col. 17, lines 20-25.

### ***Conclusion***

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Motilewa Good-Johnson whose telephone number is (571) 272-7658. The examiner can normally be reached on Monday, Tuesday and Wednesday 9:00 AM - 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on (571) 272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2628

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Motilewa Good-Johnson  
Examiner  
Art Unit 2628

mgj



KEE M. TUNG  
SUPERVISORY PATENT EXAMINER